<u>**REMARKS**</u>

By this amendment, Claim 1 has been amended, and no claims have been added or cancelled. Consequently, Claims 1-7, 9-20, and 22-26 are currently pending. All issues raised in the Office Action mailed April 18, 2007, are addressed hereinafter.

THE PENDING CLAIMS PRODUCE A CONCRETE, USEFUL, AND TANGIBLE RESULT

Claims 1-7, 9-20, and 22-26 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. More specifically, the claims were rejected because the claims, allegedly, do not recite a practical application by producing a physical transformation or producing a useful, concrete, and tangible result.

Claim 1, as amended, recites "storing the results in a computer-readable storage medium." "Storing the results in a computer-readable storage medium" is a useful, concrete, and tangible result. Further, Claims 2-7, 9-20, and 22-26 all depend, either directly or indirectly, from Claim 1 and include all of the limitations of Claim 1. Thus Claims 2-7, 9-20, and 22-26, also include the limitation "storing the results in a computer-readable storage medium." Thus, Claims 1-7, 9-20, and 22-26 recite a useful, concrete, and tangible result and the rejection has been overcome.

THE PENDING CLAIMS ARE PATENTABLE OVER THE CITED ART

Claims 1-7, 9-20, and 22-26 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent 6,324,533 by Agrawal et al. ("*Agrawal*") in view of U.S. Patent 6,138,117 by Bayardo ("*Bayardo*"). It is respectfully submitted that Claims

1-7, 9-20, and 22-26 are patentable over *Agrawal* and *Bayardo* for at least the reasons provided hereinafter.

CLAIM 1

Claim 1, as amended, recites:

> "within a database server, receiving a database statement that specifies frequency criteria and additional criteria,
> **wherein said frequency criteria specifies at least one criterion that relates to how frequently combinations of items appear together, and wherein said additional criteria do not specify any criterion that relates to how frequently combinations of items appear together**;
> performing said frequent itemset operation as part of execution of the database statement to produce results, wherein the results include frequent itemsets that satisfy both said frequency criteria and said additional criteria, and wherein the results do not include frequent itemsets that satisfy said frequency criteria but do not satisfy said additional criteria; and
> storing the results in a computer-readable storage medium."

At least the above-bolded portions of Claim 1 are not disclosed, taught, or suggested by *Agrawal* or *Bayardo*, either alone or in combination.

Claim 1 is directed towards an approach for performing a frequent itemset operation. According to the approach of Claim 1, a database server receives a database statement that specifies frequency criteria and additional criteria. The frequent itemset operation is performed as part of the execution of the database statement to produce results. Advantageously, the results include frequent itemsets that satisfy both the frequency criteria and the additional criteria, but do not include frequent itemsets that satisfy the frequency criteria but do not satisfy the additional criteria. In this way, frequent itemsets may be identified that satisfy additional criteria in addition to the frequency criteria.

Claim 1 recites the element "within a database server, receiving a database statement that specifies frequency criteria and additional criteria, wherein said frequency criteria specifies at least one criterion that relates to how frequently combinations of items appear together, and *wherein said additional criteria do not specify any criterion that relates to how frequently combinations of items appear together*." The Office Action admits that the bolded limitation is not explicitly disclosed in *Agrawal*.

The Office Action alleges, however, that the limitation "*wherein said additional criteria do not specify any criterion that relates to how frequently combinations of items appear together*" is disclosed by *Bayardo*. The Office Action states "Max-Minor usually performs less database passes than this bound in practice when the longest frequent itemsets are more than 10 in length (*Bayardo*, Col, 9, Lines 57-60). Examiner interprets the length of 10 as additional criteria." (Office Action, p. 5).

The cited section of *Bayardo* merely states environments where the Max-Minor method may better determine frequent itemsets (those more than 10 in length). The fact that a method may work more efficiently in a particular environment does not mean that the environment may be interpreted as "additional criteria."

Furthermore, Claim 1 recites the limitation "*receiving a database statement that specifies* frequency criteria and *additional criteria*" in addition to "*wherein said additional criteria do not specify any criterion that relates to how frequently combinations of items appear together.*" Thus "additional criteria" in Claim 1 must also be specified in a database statement. *Bayardo* does not teach or disclose that the length of the itemset is specified in a database statement.

At best, *Bayardo* states "Max-Minor accepts as input a database T and, implicitly, the minimum support specified by the user." (*Bayardo*, Col. 9, lines 26-27). Thus the

only information specified in the Max-Minor method is the database itself. No disclosure is made of the itemset length being specified in a database statement, much less having the itemset length be used as additional criteria, and specifying that additional criteria in a database statement.

In *Bayardo*, "minimum support" is implicitly specified by the user. However, minimum support also does not fall within "additional criteria." Rather, "minimum support" is the frequency threshold, or the minimum number of occurrences the itemset appears in order to be considered by the method. "Minimum support" thus refers to how frequently combinations of items appear together, a criterium that "additional criteria" within Claim 1 may not specify. Furthermore, "minimum support" is *implicit* by the user, not specified in a database statement as recited in Claim 1.

Consequently, it is respectfully submitted that, for at least the above reasons, *Agrawal* or *Bayardo*, either alone or in combination, do not disclose, teach, or suggest the above-bolded elements of Claim 1. As at least one element in Claim 1 is not disclosed, taught, or suggested by *Agrawal* or *Bayardo*, it is respectfully submitted that Claim 1 is patentable over the cited art and is in condition for allowance.

CLAIMS 2-7, 9-20, AND 22-26

Claims 2-7, 9-20, and 22-26 depend, either directly or indirectly, upon independent Claim 1. Therefore, these dependent claims also include the limitations of the independent claim upon with they depend. Thus, dependent Claims 2-7, 9-20, and 22-26 are patentable for at least those reasons given above with respect to Claim 1. In addition, each of Claims 2-7, 9-20, and 22-26 introduce one or more additional limitations that independently render it patentable. However, due to the fundamental differences already identified, to expedite the positive resolution of this case a separate

discussion of those limitations is not included at this time, although the Applicants

reserve the right to further point out the differences between the cited art and the novel

features recited in the dependent claims.

CONCLUSION

It is respectfully submitted that all of the pending claims are in condition for

allowance and the issuance of a notice of allowance is respectfully requested. If there are

any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner

believes that such contact would be helpful in furthering the prosecution of this

application.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

/RobertSChee/_____

Robert S. Chee   Reg. No. 58,554

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2055 Gateway Place, Suite 550
San Jose, California 95110-1083
Telephone No.: (408) 414-1080
Facsimile No.: (408) 414-1076